## What is claimed is:

- A method for determining a maximum number of 1 attempted retry operations when a read error occurs in an 2 optical disk device, the method comprising the steps of: 3 receiving an RF signal from a pickup of the optical 4 disk device: 5 detecting an envelope of the RF signal; 6 7 asserting a defect signal when a level of the envelope is lower than a predetermined threshold; 8 9 generating interrupt pulses during the assertion of the defect signal; and 10 11 determining the maximum number of attempted retry 12 operations according to the interrupt pulses.
  - 1 2. The method as claimed in claim 1, wherein the 2 interrupt pulses are periodically generated at a 3 predetermined time interval during the assertion of the 4 defect signal.
  - 3. The method as claimed in claim 2, wherein the maximum number of attempted retry operations is determined according to a total number of the interrupt pulses within a read period of a data block causing the read error.
  - 4. The method as claimed in claim 3, wherein one of a first, second and third values is selected as the maximum respectively when the total number of the interrupt pulses is larger than a first threshold, between the first and second threshold, and lower than the second threshold.

- 1 5. The method as claimed in claim 4, wherein the
- 2 first threshold is larger than the second threshold, the
- 3 first value is smaller than the second value and the second
- 4 value is smaller than the third value.
- 1 6. The method as claimed in claim 1, wherein the
- 2 interrupt pulses are generated only upon level transitions
- 3 in the defect signal.
- 7. The method as claimed in claim 6, wherein the
- 2 maximum of times the retry operation is attempted is
- 3 determined according to a total length of periods between
- 4 pairs of odd and even-numbered pulses, within a read period
- 5 of a data block causing the read error.
- 1 8. The method as claimed in claim 7, wherein one of a
- 2 first, second and third values is selected as the maximum
- 3 respectively when the total length of the periods is larger
- 4 than a first threshold, between the first and second
- 5 threshold, and lower than the second threshold.
- 1 9. The method as claimed in claim 8, wherein the
- 2 first threshold is larger than the second threshold, the
- 3 first value is smaller than the second value and the second
- 4 value is smaller than the third value.
- 1 10. An apparatus for determining a maximum number of
- 2 attempted retry operations when a read error occurs in an
- 3 optical disk device, the apparatus comprising:

an RF signal processor for both receiving and 4 5 amplifying an RF signal from a pickup of the 6 optical disk device; 7 an envelope detector for outputting an envelope of the RF signal according to the results of the RF 8 9 signal processor; an defect detector for both asserting a defect signal 10 11 when a level of the envelope is lower than a 12 predetermined threshold and for generating 13 interrupt pulses during the assertion of the 14 defect signal, wherein the defect detector 15 receives the output of the envelop detector; and 16 a system controller for determining the maximum number 17 of attempted retry operations according to the 18 interrupt pulses, wherein the system controller 19 receives the output of the defect detector.

- 1 11. The apparatus as claimed in claim 10, wherein the 2 interrupt pulses are periodically generated at a 3 predetermined time interval during the assertion of the 4 defect signal and are received by the defect detector.
- 1 12. The apparatus as claimed in claim 11, wherein the 2 system controller determine the maximum number of attempted 3 retry operations according to a total number of the 4 interrupt pulses within a read period of a data block 5 causing the read error.
- 1 13. The apparatus as claimed in claim 12, wherein one 2 of a first, second and third values is selected as the 3 maximum respectively when the total number of the interrupt

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- 4 pulses is larger than a first threshold, between the first
- 5 and second threshold, and lower than the second threshold.
- 1 14. The apparatus as claimed in claim 13, wherein the
- 2 first threshold is larger than the second threshold, the
- 3 first value is smaller than the second value and the second
- 4 value is smaller than the third value.
- 1 15. The apparatus as claimed in claim 10, wherein the
- 2 interrupt pulses are generated only upon level transitions
- 3 of the defect signal.
- 1 16. The apparatus as claimed in claim 15, wherein the
- 2 system controller determines the maximum of times the retry
- 3 operation is attempted according to a total length of
- 4 periods between pairs of odd and even-numbered pulses,
- 5 within a read period of a data block causing the read error.
- 1 17. The apparatus as claimed in claim 16, wherein one
- 2 of a first, second and third values is selected as the
- 3 maximum respectively when the total length of the periods is
- 4 larger than a first threshold, between the first and second
- 5 threshold, and lower than the second threshold.
- 1 18. The method as claimed in claim 17, wherein the
- 2 first threshold is larger than the second threshold, the
- 3 first value is smaller than the second value and the second
- 4 value is smaller than the third value.